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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/801,041

03/16/2004

Jin Hong Kim

46500-000143/US

1235

30593 7590 08/17/2009
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EXAMINER

RAEVIS, ROBERT R

ART UNIT

PAPER NUMBER

2856

MAIL DATE

DELIVERY MODE

08/17/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/801,041	Applicant(s) KIM ET AL.	
	Examiner Robert R. Raevis	Art Unit 2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 June 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8,10,12-14 and 18-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8,10,12-14,18-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 8,10,12-14,18-21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

As to claim 8, where is there support for "greater than a reference value" (line 2 from last)? (Comment: Please note that the single horizontal dashed line in Figure 6 (i.e. the earlier argued reference) does not seem related to a threshold of failure. That is especially, though not exclusively so, as the two solid circle points above the dashed (fail?) line are not tagged "Fail" as is done for the two triangle points also above the so called dashed (fail?) line. The single dashed line is just there, *with both "Fail" and non-fail points above the dashed line*. How is endurance a function of jitter, when some points (i.e. the two solid dots above the dashed line in Figure 6) have greater than 10% (i.e. the earlier described threshold) jitter and are not deemed to be indications of failure?

As to claims 18,19,20,21, where is there support for a "reference SER", "reference BER", "**reference servo error rate**" and "reference tracking error signal"? (Comment: Note that Para 41 states that the SER, BER, servo error signal and tracking error signal are measured, but does not describe either a reference or comparison.)

As to claims 18, 29, 20, 21, where is there any support for “comparing”? (Comment: Note that Para 41 states that the SER, BER, servo error signal and tracking error signal are measured, but does not describe either a reference or comparison.)

Claims 18-21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

As to claim 18, “symbol error rate” is undefined. *How is this used to determine efficiency if jitter value is greater than a reference as called for in base claim 8? In fact, how is the rate defined, how is it determined/ measured, and how is it used to determine deficiency?*

As to claim 19, “bit error rate” is undefined. *How is this used to determine efficiency if jitter value is greater than a reference as called for in base claim 8? In fact, how is the rate defined, how is it determined/measured, and how is it used to determine deficiency?*

As to claim 20, “servo error signal” is undefined. *How is this used to determine efficiency if jitter value is greater than a reference as called for in base claim 8? In fact, how is the rate defined, how is it determined/ measured, and how is it used to determine deficiency?*

As to claim 21, “tracking error signal” is undefined. *How is this used to determine efficiency if jitter value is greater than a reference as called for in base claim 8? In fact, how is the tracking error signal defined, how is it determined/measured, and how is it used to determine deficiency?*

As to **REMARKS**, consider:

As to p. 7, top paragraph; the definitions for the errors that are provided by Applicant are certainly new to the application. As those definitions are so “well known”, Applicant is encouraged to provide a reference for each of them. A reference could potentially provide an explanation as to the definitions of each of the errors, and how each of the errors may be employed to actually test endurance of an optical disk.

As to p. 7, last paragraph; the amendments to claims 18-21 include new matter.

As to p. 8, second paragraph; Paragraphs 35-37 do not provide support for the proposed amendments to claims 18-21.

As to p. 11, middle paragraph; what is the “manner of using” (line 8 of middle paragraph) the different errors to determine disc deficiency? It is noted that the manner was argued as being “similar manner as jitter” (p. 9, top paragraph, of Remarks filed 7/14/08), but that is not helpful as (1) the manner of carrying it out with jitter is problematic (112(1)), and (2) the original disclosure does not teach any “similar manner” as argued.

Claims 8,10,12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashida et al.

As to claim 8, Hayashida et al teach (Para 91) a method to test endurance of an optical disc, including: placing the disc on a turntable; rotating the turntable and disc; applying pressure to the disc using a scratching unit (abrasive wheels) while the disc rotates a number of turns, so as to scratch the surface of the disc; and ascertaining the abrasion resistance of the sample, said

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resistance indicative of endurance. Force applied to the disc from above employs a pressure that is applied in the vertical direction. Jitter less than 10% is in the “satisfactory range” (Para 154).

Hayashida does not refer to “up to five” rotation turns.

As to claim 8, it would have been obvious to employ up to five rotation turns as TABLE 3 illustrates use of 5 abrasion cycles, while relating the cycles to the “rotating the turntable” (Para 91), suggestive of turning the specimen of interest 5 rotations during testing.

Hayashida refers (Para 91) to a range of cycles under a range of loads, but does not base one (loads) on the other (cycles).

As to claim 10, it would have been obvious to apply a reduced load for a greater number of cycles as it would be desirable to assure that the wheels do not fully pass through the disc of interest, to thus permit for a measurement of a parameter (i.e. the change of thickness” (Para 94)) that’s indicative of abrasion resistance.

As to claim 12,13, it would have been obvious to employ a non-rotating test piece (in place of a wheel) in Hayashida as Hayashida teaches (Para 90,92) that steel wool may effectively permit for abrasion testing of a rotating body. Such a test piece must provide for a sufficient force/area ration to provide for a measure of abrasion. The pressure provided in Applicant’s claim 12 is within the range of sufficient pressures, especially as Nakagawa’s test piece is non-rotating, just like Applicant’s.

As to claim 14, Hayashida suggests (Para 94) depth measurement as a means to evaluate abrasion resistance. In addition, one of ordinary skill would provide for reference values

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indicative of whether resistance for a particular disc is acceptable. The threshold value provided in Applicant's claim 14 seems to be within one of ordinary skill.

As to **REMARKS**, please consider the following:

As to p. 8 last paragraph; while the specification of Hayashida '975 reference does not employ the phrase "up to 5", he certainly employs 5 cycles as depicted in the "Abrasion cycles" row of TABLE 3 which expressly employs "5" rotations for testing. While the claim does not call for -- up to and including 5--, Hayashida's "5" sure seems to be darn close. In that regard, it's interesting to note that the listed data (of TABLE 3) employs only round cycle numbers (i.e. 0, 5, 10, 20, 40, 30, 100, 500), which does not necessarily expressly exclude use of a numbers such at 7, 13, 30, 50, 90, etc, or even a number less than 5 in any "cycle test" that employs rotation. It's just natural to employ/list integral (round) numbers in a test. Applicant's invention seems to be directed to ceasing rotation at a number in-between, or in this case just before "5" is reached. (Incidentally, that would make one consider if use of any numerical range between (but not including) any of the round cycle numbers (i.e. 0, 5, 10, 20, 40, 30, 100, 500) employed in the reference qualify as a patentable invention.)

As to p. 9, last paragraph; note that Hayashida states (Para 154) that jitter less than 13% is permissible, and the jitter less than 10% is desirable, suggestive of reference values. (Note: Applicant does not have support for a reference.) Also, please look at TABLE 3 that states that for sample No. 2, jitter % for 0 turns is 8.5, while jitter % for *that same sample* has increased to 8.9 after 5 turns. Sample No. 3 also demonstrates an increase in jitter % from 8.5 to 16 *after the disk* has rotated 5 revolutions. TABLE 3 should demonstrate that jitter is measured after

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rotation, while Para 154 provides that the disc is deficient (i.e. not “satisfactory” (line 3 from bottom of Para 154)) if above 10%.

As to p. 10, second paragraph; regarding the “contrary” argument, how is the “without” reflected in any way in the claims?

As to p. 10, last full paragraph; what does "acceptable" imply in claim 8? Does it mean – normal—(claim 8)? In addition, note that Hayashide teaches what provides for “margins in a *satisfactory*” (Para 154) range, suggestive of acceptability.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert R. Raevis whose telephone number is 571-272-2204. The examiner can normally be reached on Monday to Friday from 5:30am to 3pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams, can be reached on 571-272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Robert R. Raevis/

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Primary Examiner, Art Unit 2856